Our Docket No: 42390P10465

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
)
        Cheng   )   Examiner: Nguyen, Merilyn P.
)
Application No: 09/741,200   )   Art Unit: 2161
)
Filed: December 19, 2000   )
)
For: Automatic Distribution List)
        Management   )
_____)

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR 1.131 IN SUPPORT OF PRIOR INVENTION

Sir:

        I declare:

1.   Intel Corporation is the assignee of the claims of the above captioned patent

application ("the Application") and of the subject matter described therein.

2.   Prior to September 22, 2000, the publication date of Japanese Patent No.

JP2000259514 cited in a final Office Action mailed December 30, 2005, the

invention claimed in the Application had been conceived and reduced to practice

in the United States.

3.   The attached Exhibit is a redacted copy of an invention disclosure form describing

the design of Automatic Distributing List Management, and establishes that the

subject matter claimed in the Application had been conceived and reduced to

practice in the United States prior to September 22, 2000. The Exhibit (the

Declaration Under Rule 1.131
in Support of Application
Application No. 10/037,530

invention disclosure) describes "allow[ing] the mailing lists [to be] updated automatically." The Exhibit further describes that *"based on the information of the bounced emails,* the email system of the mailing list will automatically remove the non-existing user names from the list. The user of the list administrator *will no long[er] receive bounced mails for those non-existing user named."* (Exhibit at page 2, paragraph 2; emphasis provided)

4.   Therefore, the Exhibit establishes that the subject matter claimed in the Application had been conceived and reduced to practice in the United Sates prior to September 22, 2000.

Furthermore, all statements made herein of our own knowledge are true and all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Dated: February 13, 2006   _____
                                 Heung-For Cheng

INTEL INVENTION DISCLOSURE
ATTORNEY-CLIENT PRIVILEGED COMMUNICATION

S

DATE: _July 24, 2000_

Software/
Internet / IAG / EPG / SPD

It is important to provide accurate and detailed information on this form. The information will be used to evaluate your invention for possible filing as a patent application. When completed and signed, please return this form to the **Legal Department at JF3-147.** If you have any questions, please call **264-0444.**

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*If you are unsure of this information, please discuss with your manager.

(PROVIDE SAME INFORMATION AS ABOVE FOR EACH ADDITIONAL INVENTOR)

2. Title of Invention: _METHOD AND APPARATUS FOR AUTOMATIC REMOVAL OF NON-EXISTING USER NAMES FROM ELECTRONIC MAILING LISTS_____

3. What technology/product/process (code name) does it relate to (be specific if you can):
   _SYSTEM MANAGEMENT_____

4. Include several key words to describe the technology area of the invention in addition to # 3 above: _EMAIL MANAGEMENT_

5. Stage of development (i.e. % complete, simulations done, test chips if any, etc.): _0% complete_____

6. (a) Has a description of your invention been, or will it shortly be, published outside Intel:

   NO: ___x____ YES: _____ If YES, was the manuscript submitted for pre-publication approval? _____

   IDENTIFY THE PUBLICATION AND THE DATE PUBLISHED:_____

   (b) Has your invention been used/sold or planned to be used/sold by Intel or others?

   NO: ___x____ YES: _____ DATE WAS OR WILL BE SOLD: _____

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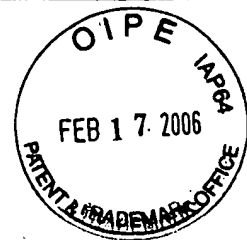
OIPE IAP64 FEB 1 7 2006 PATENT & TRADEMARK OFFICE

METHOD AND APPARATUS FOR AUTOMATIC REMOVAL OF NON-EXISTING USER NAMES FROM ELECTRONIC MAILING LISTS
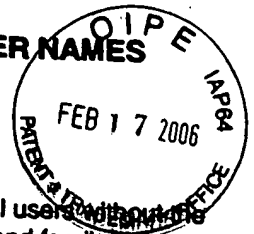
Problem Definition

Currently, many people rely on electronic mailing lists to distribute information to a large group of email users without the need of typing each individual email address. People may maintain a mailing list for personal friends and family members. They may have a mailing list for the members in the same team at work. Some people may also subscribe to a public mailing list so that by sending a mail to this list, all the subscribers will receive the mail. However, when a person leaves a company or a friend changes the email address, the private or public mailing list containing his/her old email address will not be up-to-date. When a user sends an email to this mailing list, either he/she or the public mailing list administrator will receive a bounced mail. If the user or the public mailing list administrator doesn't remove the name from the mailing list, he/she will receive a bounced mail every time a mail message is sent to this mailing list. Sometimes, if there are many non-existing user names in this mailing list, there will be many bounced mails back to the sender. This is very annoying and the bounced mails results in unnecessary network traffic. To avoid receiving bounced mails, all the mailing lists containing this name should be updated. Most of the time, this update process is done manually. It will be very helpful if the email system of a particular mailing list can automatically update the list for the user or for the public list administrator.

Proposed Solution

The proposed mechanism allows the mailing lists being updated automatically. It doesn't totally eliminate bounced mails when a mailing list contains non-existing email user names. Instead, the user or the list administrator will only receive the bounced mails one time. Afterward, based on the information of the bounced mails, the email system of the mailing list will automatically remove the non-existing user names from that list. The user or the list administrator will no long receive bounced mails for those non-existing user names again.

How It works

Many email systems today contains 2 software components: the Mail User Agent (MUA) and the Mail Transport Agent (MTA). The MUA is a GUI application, such as "ELM" or "/usr/ucb/mail" in many UNIX systems. It allows users to compose and send an email, or read a received email. A public mailing list server acts as a MUA because it sends a received email message to a group of users automatically. When the MUA is ready to send the message, it passes the email message and the envelope data to the local MTA such as the "sendmail" utility in the UNIX systems. The envelope data consists of both the sender's email address and each recipient's email address. If one of the recipients is a mailing list name, the MTA will expand it into a list of recipients. Then for each recipient, the local MTA will decide if the recipient is a local user or not. If so, the local MTA will deliver to the recipient's local mailbox. If the recipient is a remote user, the local MTA will try to connect to the remote MTA. After the connection is established and if the recipient is a valid email user in the remote system, the email message is delivered. However, if the remote machine connection cannot be established, the local MTA will receive a bounced mail with an error code indicating that the remote machine is unreachable. Even if the remote machine can be connected, if the user name is non-existing, the local MTA will receive a bounced mail with another error code indicating that the user name doesn't exist in the remote email system. If the recipient is a local email address and the user name is non-existing, the local MTA can also detect the non-existence of the user name.

Assume a user is sending an email message to a mailing list that contains a non-existing local user name and a non-existing remote user name. The followings describe how the proposed automatic removal mechanism works: (The diagram below only shows how a non-existing remote user name is removed from the mailing list.)

The local MTA will maintain a database with entries of (email mailing list name, email subject line, sending time). As soon as the local MTA receives the email message and the mailing list from the MUA (see arrow 1 in the diagram), it will create an entry in this database for this email message (see arrow 2 in the diagram). The entry represents that an email message with subject line "email subject line" is sent to the "email mailing list name" at the "sending time". Then for each recipient, it tries to deliver the email message as described above in the current existing system. When it tries to deliver to the local non-existing user, the local MTA detects the non-existence. Then it will compare the email message's "subject line" and "sending time" with the entries in the database. When the entry matches, the local MTA will find the name of the mailing list to update. Then it removes the local user name from the mailing list and sends the bounced message to the sender with the notification that the local non-existing recipient name has been removed from the mailing list. When it tries to deliver to the remote non-existing user (see arrow 3 in the diagram), the local MTA will receive a bounced mail with an error code indicating that the user name doesn't exist in the remote email system (see arrow 4 in the diagram). Then the local MTA will find the entry from the database with the matching "subject line" and

"sending time" as the bounced mail. Then it will use the mailing list name in the entry to remove the remote user name from the mail list (see arrow 5 in the diagram). Afterward, it will send the bounced message to the sender with the notification that the remote non-existing recipient name has been removed from the mailing list (see arrow 6 in the diagram). As the result, the mailing list will be updated with both the local and the remote user names being removed automatically. Next time when another new mail is sent to this mailing list, since these two non-existing user names has been removed from the list, there will not be any bounced mails for these two names.

Because a bounced mail can return in any time, there is no good way to determine if we can remove a particular entry in the above database or not. However, some policy can be established for cleaning up the database. For example, a MTA can delete an entry with "sending time" 7 days earlier because we can safely assume that if a bounced email returns, it should returns within 7 days.
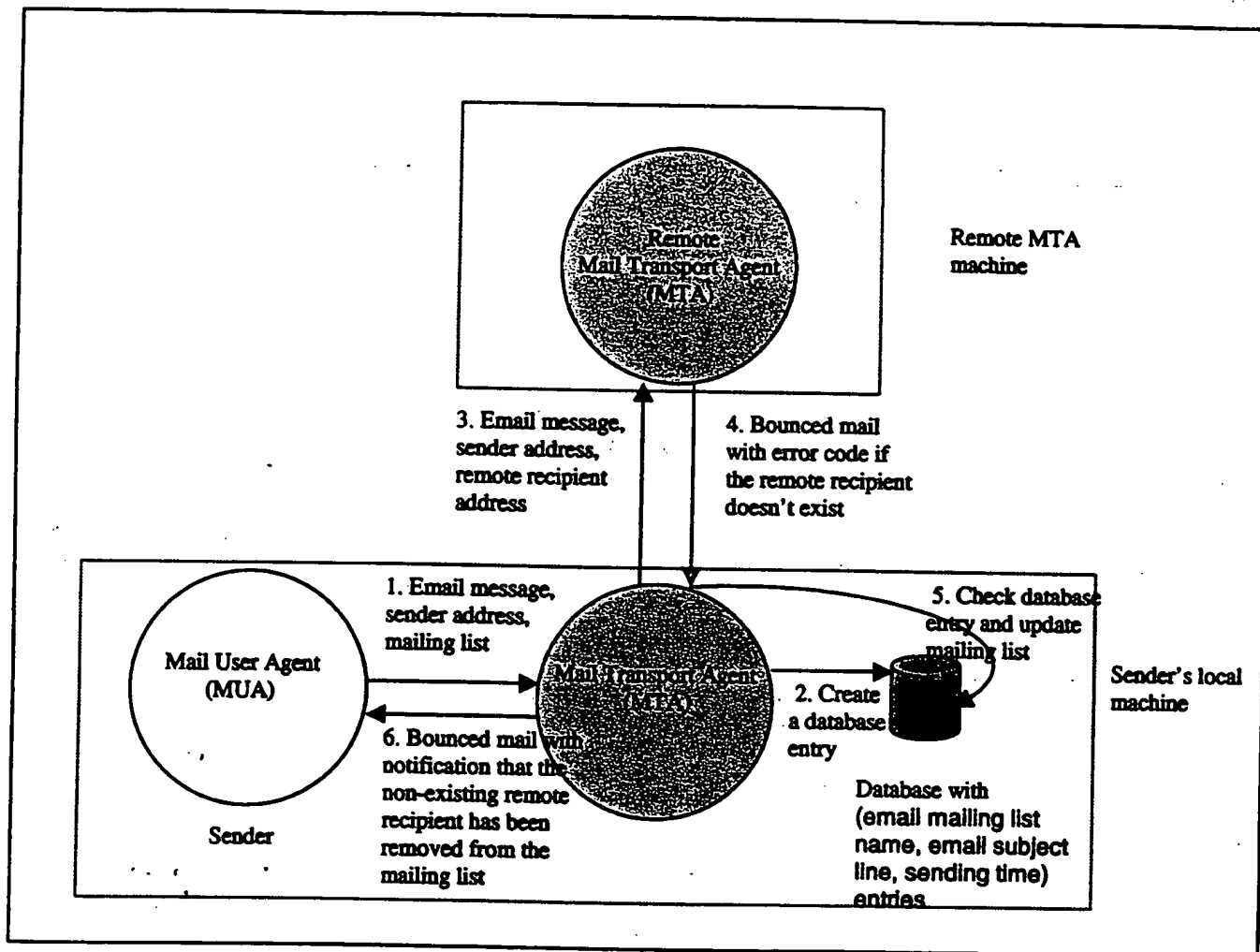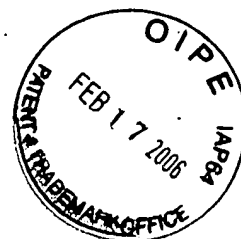

Figure: example of how a remote non-existing recipient can be automatically removed from a mailing list